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century, some of whom, if we are not mistaken, have got more than one of these new "discoveries" of ours marked on their maps! In short, we may say with the Irish school-master, when he found one of his own similes in Homer, "Curse thim ancients, they 've stolen all our best ideas!"

INUNDATION OF THE SAHARA. — The idea of converting the Western Sahara into an inland sea is discountenanced by Mr. E. G. Ravenstein, who thinks that the plan is premature. He claims that the natural outlets of the Sahara are Tripoli, Algiers, Morocco on the north, the Atlantic seaboard on the west, and the Senegal and Niger on the south. "It is by these roads the necessities of the inhabitants of the Sahara are supplied, and their surplus produce is exported, and they will suffice for a long time to come."

MAP OF PREHISTORIC RUINS IN COLORADO. — A Preliminary Map of Southwestern Colorado and Parts of the Adjacent Territories, showing the Location of Ancient Ruins, issued by the United States Geological and Geographical Survey of the Territories, F. V. Hayden in charge, will be found of much use by archæologists and travelers, as it gives the localities of the ancient rock ruins and cliff-houses discovered by the survey.

MICROSCOPY.[1]

SAN FRANCISCO MICROSCOPICAL SOCIETY. — This working society now numbers about forty active members, and its annual receptions and semi-monthly meetings are well sustained. During the past year it has commenced the formation, by purchase and donation of books and subscriptions to magazines, of a suitable library, and has added to its supply of apparatus a Nachet microscope whose one-eighth objective, which has no collar adjustment, with Nachet's oblique condenser, resolved promptly and easily into beads No. 19 of Möller's test-plate. Among the notable additions to the cabinet of slides are a series of slides of the wall rocks of the gold-bearing veins of California; a series of sections of the woods of California; a slide of the curious diatom, *Schizonema Grevillii*, remarkable for its great external resemblance to some forms of algæ, the frustules of which were contained in a regular tubular frond, in which they were living when found, and up and down the canal of which they were seen to move; a slide of crystals of salt obtained by slow evaporation from the tear of a child; and a fragment of photographic paper mounted in balsam to exhibit the minute specks which are so annoying to the photographer, and which appeared as white spots containing a dark nucleus of an arborescent crystalline formation, black oxide of manganese being believed to be the cause of the spots, and hydrochloric acid being suggested as a possible means of removing them. The work of the society seems to be mainly directed to the legitimate natural history applications of the microscope, though not without some such diversions as public exhibitions and a moderate amount of "microscopic gymnastics" in the way of "test-object" resolution. Mr. Kinne's paper on the method by which a fly walks in an inverted position was brought so strongly before the attention of the publishers of a school-book in which the familiar facts of the case were misrepresented, that they promised to suppress the erroneous article in future editions. The excellent annual address of the president, Prof. Wm. Ashburner, recommends that, in addition to the advantages furnished to members, the privileges of the rooms be extended to investigators who might not be able to incur the expense of regular membership.

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[1] This department is conducted by DR. R. H. WARD, Troy, N. Y.

KINNE'S TURN-TABLE. — This is a self-centring table in which the object is held diagonally between rectangular clutches, as in the "Cox table." This was contrived independently, though published subsequently to Mr. Cox's invention, from which it differs in moving the clutches by a lever and spiral instead of a screw.

COMPARATIVE PHOTOGRAPHS OF BLOOD. — Dr. J. G. Richardson, for the sake of illustrating in criminal cases the distinguishable appearances of different kinds of blood, has flowed drops of blood from different animals so nearly in contact on the glass slide that portions of the two drops appear in the same field and can be photographed together. Dr. C. Leo Mees has modified this method and obtained exquisite results in specimens presented to the microscopical section of the Tyndall Association. He spreads the blood by Dr. Christopher Johnson's method, which is to touch a drop of blood to the accurately ground edge of a slide, and then draw it gently across the face of another slide, leaving a beautifully spread film. In this way one kind of blood is spread upon the slide and another on the cover. When dry, one half of each is carefully scraped off with a smoothly sharpened knife, and the cover inverted upon the slide in such position as to bring the remaining portions of the film into apposition. Under the microscope and in the photograph the two kinds of blood appear in remarkably fine contrast, even those bloods that are too nearly alike for safe discrimination in criminal cases being easily distinguished when thus prepared from fresh material.

"RUSTY GOLD." — Mr. Melville Attwood, in his paper on this subject before the San Francisco Microscopical Society, discredits the belief of the miners that a thin film of oxide of iron forms on gold and prevents a successful separation of the gold by means of amalgamation. He believes the failure of the miners to obtain good results to be due far more to an unexpected poverty of the quartz than to any difficulty in causing the quicksilver to combine with the gold that is really present.

EXCHANGES. — (Notices, not exceeding four lines in length, of microscopical objects or apparatus wanted or offered in exchange, not sale, will be inserted in this column without expense.)

Diatoms, prepared or unprepared, in exchange for others. Correspondence desired with amateurs interested in mounting arranged diatoms. — Galloway C. Morris, Tulpehocken Street, Germantown, Philadelphia, Penn.

Magic-lantern transparencies or cabinet-size photographs of microscopic objects in exchange for suitable slides. — R. H. Bliven, Elmore, Ohio.

POLARIZING CRYSTALLIZATIONS. — Mr. C. C. Merriman, of Rochester, gives the following useful hints in regard to the preparation of the exquisite polarizing objects contributed by him to the Postal Micro-Cabinet Club: "All solutions must be in distilled water, and carefully filtered. Solution of gum arabic must be added to the crystalline solution until the drops will dry on the slide without crystallizing. Then the drop on the slide is to be held over steam until one or more points of crystallization appear; then at once dried over an alcohol lamp; then held over the steam again until the crystals have grown a trifle larger, and so on until the specimen is satisfactory. The specimens are to be first varnished over with a film of collodion, such as photographers use, and then mounted in old Canada balsam." Specimens thus prepared have been perfectly preserved for many years, though some of them are spoiled by re-crystallization after mounting.

AMERICAN MICROSCOPICAL SOCIETIES. — The following list of microscopical organizations is corrected to date, with the exception of a few instances, where further information could not be obtained. Secretaries and others interested are specially requested to furnish such corrections and additions as may become necessary from time to time.

Agassiz Institute, Sacramento, Cal. Organized 1872. Meets second Tuesday evening of month. President, —— ——; Vice-President, Rev. I. E. Dwinell, D. D.; Secretary, A. P. Andrews; Cor. Secretary, Rev. J. H. C. Bronte.

Academy of Natural Sciences, Philadelphia; Biological and Microscopical Section. Organized 1868. Meets first Monday evening of the month, except July and August, in the hall of the Academy, cor. 19th and Race sts. Director, W. S. W. Ruschenberger, M. D.; Vice-Director, James Tyson, M. D.; Recorder, J. G. Richardson, M. D., 1835 Chestnut St.; Cor. Secretary, J. H. McQuillen, M. D.; Treasurer, Isaac Morris, M. D.; Conservator, J. Gibbons Hunt, M. D.

American Association for the Advancement of Science; Microscopical Sub-Section. Has met occasionally in connection with the migratory sessions of the association. It is intended to organize permanently at the Buffalo meeting next August.

American Microscopical Society of the City of New York. Organized 1865. Meets second and fourth Tuesday evenings of the month, at 35 East 10th St. President, John B. Rich, M. D.; Vice-President, William H. Atkinson, M. D.; Secretary, C. F. Cox, 13 William St.; Treasurer, T. d'Orémieulx; Curator, O. G. Mason.

American Postal Micro-Cabinet Club. Organized 1875. Business conducted exclusively by mail. President, Prof. John Peirce, Providence, R. I.; Secretary, Rev. A. B. Hervey, 10 North Second St., Troy, N. Y.; Managers, R. H. Ward, M. D., Troy, N. Y., and C. M. Vorce, Cleveland, Ohio.

Bailey Club, New York city. A small club of working microscopists. Meetings informal, every second Tuesday, at residences of members.

Boston Microscopical Society. Organized 1873. Meets first and third Thursdays of month, at residences of members. President, David Hunt, Jr., M. D.; Vice-Presidents, Stephen P. Sharples, S. B., and Alfred F. Holt, M. D.; Secretary and Treasurer, R. R. Andrews, D. D. S., Brattle Square, Cambridge, Mass.; Council, S. W. Creech, Jr., J. Frank Brown, and Edward Moulton; Custodian, C. H. Osgood, D. D. S.

Boston Society of Natural History; Microscopical Section. Organized 1864. Meets second Wednesday evening of month. Committee, Edwin Bicknell, R. C. Greenleaf, and B. Joy Jeffries, M. D.

Buffalo Microscopical Club, Buffalo, N. Y. Organized 1876. President, Prof. George Hadley, M. D.; Secretary, James W. Ward; Advisory Council, H. R. Hopkins, M. D., Henry Mills, and Prof. D. R. Kellicott.

Dartmouth Microscopical Club, Hanover, N. H. Organized 1870. President, Prof. E. Phelps; Vice-President, Prof. L. B. Hall; Cor. Secretary, Hiram A. Cutting, M. D., Lunenburgh, Vt.

Denver Microscopical Society.

Dunkirk Microscopical Society, Dunkirk, N. Y. Organized 1874. Meets second Friday evening of month. President, George E. Blackham, M. D.; Secretary and Treasurer, M. E. C. Shelton.

Fairmount Microscopical Society, Philadelphia. Organized 1871. Meets third Thursday evening of month. President, S. H. Griffith, M. D.; Secretary and Treasurer, William C. Stevenson, Jr., 24 South 4th St.; Managers, Jno. Gordon Gray, E. O. Shakespeare, M. D., and B. F. Quimby.

Indiana Microscopical Society, Indianapolis, Ind. Organized 1874. Meets first Friday evening of month, at residences of members. President, William B. Fletcher, M. D.; Secretary and Treasurer, E. Hadley, M. D., 191 Va. Ave.

Jamestown Microscopical Society.

Kirtland Society of Natural History, Cleveland, Ohio; Microscopical Branch. Secretary, John Bowers.

Louisville Microscopical Society, Louisville, Ky. Organized 1874. Meets first and third Thursday evenings of month. President, Prof. J. Lawrence Smith; Vice-Presidents, Noble Butler and C. F. Carpenter, M. D.; Treasurer, C. J. F. Allen; Secretary, John Williamson; Cor. Secretary, E. S. Crosier, M. D.

Maryland Academy of Sciences, Baltimore, Md.; Section of Biology and Microscopy. Organized 1874. Meets first and third Wednesday evenings of month, at Academy Buildings, Mulberry St. Chairman, B. W. Barton, M. D.; Secretary, W. G. Harrison, M. D., 69 Centre St.

Memphis Microscopical Society, Memphis, Tenn. Organized 1874. Meets first and third Thursday evenings of month, at 218 Main St. President, S. P. Cutler, M. D.; Secretary and Treasurer, A. F. Dod, 257 Main St.

New Jersey Microscopical Society, New Brunswick, N. J. Organized 1871. Meets second Monday evening of month at Rutgers College. President, Prof. F. C. Van Dyck; Rec. Secretary, Rev. Samuel Lockwood, Ph. D., Freehold, Monmouth Co., N. J.

Providence Franklin Society, Providence, R. I.; Microscopical Department. Organized 1874. Meets every second Wednesday evening at rooms in North Main St. President, Prof. Eli. W. Blake, Jr.; Vice-President, A. O. Tilden; Secretary, Prof. John Peirce; Treasurer, C. B. Johnson, M. D.; Librarian, N. N. Mason.

San Francisco Microscopical Society, San Francisco, Cal. Organized 1872. Meets first and third Thursdays of month at 531 Cal. St.; President, Prof. William Ashburner; Vice-President, Henry C. Hyde; Rec. Secretary, C. Mason Kinne, 422 Cal. St.; Cor. Secretary, Charles W. Banks; Treasurer, Charles G. Ewing.

Society of Natural Sciences, Buffalo, N. Y.; Microscopical Section. Organized 1872. Curator, Henry Mills, 162 Fargo Ave.

State Microscopical Society of Illinois, Chicago, Ill. Organized 1869. Meets second and fourth Fridays of month, at the Academy of Sciences. President, Henry W. Fuller; Secretary, B. W. Thomas; Cor. Secretary, Charles Adams; Treasurer, Geo. M. Higginson.

State Microscopical Society of Michigan, Kalamazoo, Mich. President, Rev. Dr. Foster.

Troy Scientific Association, Troy, N. Y.; Microscopical Section. Organized 1870. Meets first Monday evening of month, except July and August, at residences of members. President, R. H. Ward, M. D.; Vice-President, Rev. A. B. Hervey; Secretary, Prof. Arthur W. Bower.

Tyndall Association, Columbus, Ohio; Microscopical Section. Organized 1874. Meets first and third Saturday evenings of month. President, Rev. I. F. Stidham; Secretary, C. Howard; Curator, M. Hensel.

THE LEEUWENHOEK MEDAL. — The first award under the provision made at the two hundredth anniversary of the discovery of infusoria by Leeuwenhoek, for bestowing a medal in his honor upon distinguished microscopists, has been received by the oldest European candidate, Professor Ehrenberg, of Berlin.

NEW ADJUSTMENT FOR COX'S TURN-TABLE. — A slide may be, by this turn-table, centred for width only, by laying it on the table at right angles to the line of the spindle and placing triangles of brass, or even cardboard, between it and the clutches which are designed to hold the corners of the slide. When thus arranged the slide may be slipped so as to bring different parts of its median line successively to the centre of the apparatus, and thus a series of cells may be made upon the same slide, or any desired group of cells may be made by using a variety of unequal triangles. For common use the two triangles should be exactly alike, should be right-angled, and should have the sides adjoining the right angle one inch in length. Such pieces may be cut from sheet brass about the thickness of an ordinary glass object slide. These triangles may also be used, with the addition of a few cardboard blocks, for the purpose of decentring, in refinishing old slides that have not been accurately centred.

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SCIENTIFIC NEWS.

— In the Seventh Annual Report of the American Museum of Natural History it is stated that the trustees have purchased Professor Hall's palæontological collection for $65,000, and Mr. Squier's rare collection of antiquities from South and Central America; $200,000 have been appropriated by the New York legislature for furnishing the magnificent new museum building on Manhattan Square. The number of visitors to the museum, still remaining in the old arsenal, averages 13,577 a week, the weekly average of visitors to the entire British Museum, embracing all the exhibition halls, being 11,574 in 1874.

— The Bulletin of the United States Geological and Geographical Survey of the Territories, vol. ii. No. 1, contains A Notice of the Ancient Remains of Southwestern Colorado, examined during the Summer of 1875, by W. H. Holmes; A Notice of the Ancient Ruins in Arizona and Utah lying about the Rio San Juan, by W. H. Jackson; The Human Remains found near the Ancient Ruins of Southwestern Colorado and New Mexico, by Dr. Emil Bessels.

— Mr. Grote's Check-List of the Owlet Moths or Noctuidæ of America, Part I., Bombycice and Noctuelitæ (Buffalo, N. Y., pp. 28), is a very useful catalogue. It is accompanied by a photograph illustrating several new species.

— From *The Round Table and Beloit Monthly* we learn that a bill has been passed by the legislature of Wisconsin appropriating $25,000 for printing the geological reports made during the past three years by he late Dr. Lapham and others, as well as those that shall be prepared by Professor Chamberlain, who has been appointed to complete the work. The New York *Nation* states that $10,000 has been appropriated by the same legislature for the purchase for the university of Dr. Lapham's collections and library. It also is to print for the Wisconsin Academy of Sciences a volume of transactions in alternate years.

— Professor Angelin, a Swedish geologist and palæontologist, died at Stockholm on the 13th of February, aged seventy.

— Prof. F. V. Hayden has been elected a member of the Imperial Society of Naturalists of Moscow.